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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/646,292 | 08/22/2003 | Oksana Penczina | 57315 (45858) | 9380 |

7590 11/10/2005

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EXAMINER

VO, HAI

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| ART UNIT | PAPER NUMBER |
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1771

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/646,292 | Applicant(s) PENEZINA ET AL. | |
| | Examiner Hai Vo | Art Unit 1771 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08/22/05
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. The restrictions are considered moot in view of the cancellation of the non-elected claims.
2. The claim objections are withdrawn in view of the present amendment.
3. The drawing objections are maintained.
4. The 112 claim rejections with respect to claims 6-13, 16 and 17 are withdrawn in view of the present amendment. However, the 112 rejection of claim 8 is maintained.
5. All of the art rejections are maintained.

Drawings

6. Figure 1A should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of a trademark or trade name in a claim renders the claim indefinite since the trademark or trade name cannot be used properly to identify any particular material or product. It is important to recognize that a trademark or trade name is used to identify a source of goods, and not the goods themselves. In fact, the value of a trademark would be lost to the extent that it became descriptive of a product, rather than used as an identification of a source or origin of a product. Accordingly, the claim scope is uncertain due to the presence of the trademark or trade name in the claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-6, 9-14, 19 and 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Steuck et al (US 4,618,533) substantially as set forth in the 03/29/2005 Office Action. The art rejections have been maintained for the following reasons. Applicants argue that the tetraethylene glycol diacrylate of Steuck does not contain a hydrophobic portion as recited in Applicants' claim 1. The examiner disagrees. The tetraethylene glycol diacrylate contains ethylene glycol molecule which reads on Applicants' olefinic hydrocarbon group. Applicants argue that Steuck's monomer does not provide preferential adsorption. The examiner disagrees. As pointed out by Applicants in the 08/22/2005 amendment, polyethylene glycol diacrylate (Sartomer SR 344) as shown in example 2 of Applicants' disclosure is similar in structure to Steuck's monomer. The Sartomer SR 344 is "not capable of a significant preferential adsorption on the phobic substrate" in accordance with Applicants' specification. Likewise, Steuck's monomer has some degree of preferential adsorption. Therefore, the claimed subject matter does not completely exclude Steuck's porous membrane. Applicants also argue that Steuck does not teach or suggest a flow through method for hydrophilization. Again, the arguments are not commensurate in scope with the claims because such a method is not presently claimed. The examiner notes that how to make an article is found irrelevant to the claims directed to an article. However, the structure and the properties resulted from the processing steps are definitely important to the article claims. Therefore, the flow through limitations are not

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given patentable weight until Applicants show that such processing steps are critical to providing a special structure that makes the present application unobvious over the prior art. Accordingly, the art rejections are sustained.

12. Claims 1-6, 9-14, and 16-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wang et al (US 5,137,633) substantially as set forth in the 03/29/2005 Office Action. The art rejections have been maintained for the following reasons. Applicants argue that the tetraethylene glycol diacrylate of Wang does not contain a hydrophobic portion as recited in Applicants' claim 1. The examiner disagrees. The tetraethylene glycol diacrylate contains ethylene glycol molecule which reads on Applicants' olefinic hydrocarbon group. Applicants argue that Wang's monomer does not provide preferential adsorption. The examiner disagrees. As pointed out by Applicants in the 08/22/2005 amendment, polyethylene glycol diacrylate (Sartomer SR 344) as shown in example 2 of Applicants' disclosure is similar in structure to Wang's monomer. The Sartomer SR 344 is "not capable of a significant preferential adsorption on the phobic substrate" in accordance with Applicants' specification. Likewise, Wang's monomer has some degree of preferential adsorption. Therefore, the claimed subject matter does not completely exclude Wang's porous membrane. Applicants also argue that Wang does not teach or suggest a flow through method for hydrophilization. Again, the arguments are not commensurate in scope with the claims because such a method is not presently claimed. It is noted that how to make an article is found

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irrelevant to the claims directed to an article. However, the structure and the properties resulted from the processing steps are definitely important to the article claims. Therefore, the flow through limitations are not given patentable weight until Applicants show that such processing steps are critical to providing a special structure that makes the application unobvious over the prior art.

Accordingly, the art rejections are sustained.

13. Claims 1-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jing et al (US 6,183, 901) as evidenced by the article "UV Refinish Primer and Clear Coat" substantially as set forth in the 03/29/2005 Office Action. The art rejections have been maintained for the following reasons. Applicants argue that Ying does not teach or suggest hydrophobic-hydrophobic interaction between pseudo-boehmite and the polymer of the protective coating. The examiner disagrees. Jing teaches a composite porous membrane comprising a hydrophobic substrate coated with a protective coating layer made from difunctional surface-modifying molecules. The hydrophobic substrate of Jing made from a membrane having a pore size of 0.002 to 1 μm within the claimed range (column 17, lines 55-56). Jing uses the same materials to form the protective coating and the photoinitiator as Applicants. Therefore, it is the examiner's position that the hydrophobic-hydrophobic interaction between the membrane and the protective coating as well as the preferential absorption would be inherently present. Like material has like property. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which

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holds that products of identical chemical composition can not have mutually exclusive properties.

Applicants state that the protective coating of Ying would be thicker than that of the present so as to achieve the flexibility and toughness. The arguments are not found persuasive for patentability because the thickness of the protective coating is not presently claimed. Applicants argue that Applicants' flow through and soaking methods could not be used to prepare such one sided coatings of Jing. The arguments are irrelevant to the claims directed to an article.

Accordingly, the art rejections are sustained.

14. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jing et al (US 6,183, 901) as applied to claim 1 above, and further in view of Hoshi et al (US 6,299,653) substantially as set forth in the 03/29/2005 Office Action. The art rejections have been maintained for the same reasons set forth in the paragraph above. Additionally, Applicants argue that natural polyvinylidene fluoride (PVDF) polymer is not ionically conductive until an electrolyte is present in a porous PVDF membrane. The examiner directs Applicants' attention to column 7, lines 13-18. Jing teaches the microporous pseudo-boehmite membrane comprises a binder and an electrolyte within the pores of the membrane. Likewise, the PVDF binder becomes ionically conductive in the presence of the electrolyte. Therefore, in view of Hoshi, those skilled in the art would be motivated to use PVDF as a polymer binder of the microporous pseudo-boehmite motivated by the desire to enhance the ionic conductivity of the membrane.

Conclusion

15. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

Hai Vo

**HAI VO
PRIMARY EXAMINER**